

Application Serial No. 10/573,975
Response filed October 21, 2011
Reply to Office Action mailed June 21, 2011

REMARKS

Claims 15 and 20-28 are pending in this application. Reconsideration is requested based on the following remarks.

Response to Arguments:

The Applicants appreciate the consideration given to their arguments, and the new grounds of rejection. Further favorable consideration is requested.

Claim Rejections - 35 U.S.C. § 103:

Claims 15 and 20-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0214584 to Marinier (hereinafter "Marinier") in view of U.S. Patent Application Publication No. 2004/0002346 to Santhoff (hereinafter "Santhoff"). The rejection is traversed. Reconsideration is earnestly solicited.

In the claimed invention, the emission of a broadcast signal by the first communication terminal allows an external mobile radio communication device, i.e., a second mobile radio communication terminal device, to communicate to the inquiring radio communication device, i.e. the first mobile radio communication terminal device, its readiness to participate in the position determining method which is to be carried out. In the claimed invention, moreover, a position of the first mobile radio communication terminal device may be inferred on the basis of the signal propagation time of the at least one radio signal from the second mobile radio communication terminal device to the first mobile radio communication terminal device. The second clause of claim 15, in particular, recites:

Before emitting a retrieval signal, emitting a preceding inquiry signal from the first mobile radio communication terminal device requesting that each second mobile radio communication terminal device send an acknowledgement signal indicating a readiness thereof to participate in determination of the local position of the first mobile radio terminal device, wherein the preceding inquiry signal is a broadcast radio signal.

Neither Marinier nor Santhoff teaches, discloses, or suggests "before emitting a retrieval signal, emitting a preceding inquiry signal from the first mobile radio communication terminal device requesting that each second mobile radio communication terminal device send an acknowledgement signal indicating a readiness thereof to participate in determination of the local position of the first mobile radio terminal device, wherein the preceding inquiry signal is a broadcast radio signal," as recited in claim 15. In Marinier, rather, a broadcast signal is broadcast

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by the RNC via the base station, as described at paragraph [0024], which message is from the network, as described at paragraph [0017], and not from the first mobile radio communication terminal device. Thus, even if Marinier and Santhoff were combined as proposed in the Office Action, claim 15 would not result.

In the claimed invention, a local position determination can be carried out for a radio communication device, as described at paragraph [0007] of the subject application. The last two clauses of claim 15, in particular, recite:

Transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network;

Inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal.

Neither Marinier nor Santhoff teaches, discloses, nor suggests "transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network," and "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal," as recited in claim 15. The Office Action acknowledges this with respect to Marinier in section 5, at the bottom of page 3, continuing at the top of page 4, and attempts to compensate for it by combining Marinier with Santhoff.

Marinier, however, discloses a non-local position determination of the position of the first mobile radio communication terminal device. Marinier, instead, describes the users WTRU providing position information regarding the target-WTRU to the network, i.e., not the target "requesting" terminal. In particular, as described at paragraph [0018]:

In step 26, the user's WTRU provides positioning information to the network (i.e. takes positioning measurements regarding the target-WTRU and reports the

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results to the network).

Marinier, moreover, describes the position measurements regarding the target-WTRU being calculated by the user's WTRU and not a target-WTRU. In particular, as described at paragraphs [0018] and [0027]:

The positioning information provided to the network is preferably used to locate the target-WTRU(s).

WTRUs 102₁-102_n include at least one processor 118 for performing the requested position measurements based on signals received for purposes of performing the position measurements. WTRUs 102₁-102_n also include a transmitter 120 that is configured to transmit results of position measurements (i.e. positioning information) to the system 100.

Claim 15, on the other hand, recites "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal," as recited in claim 15. One of ordinary skill in the art would not rely on the Marinier document when attempting to determine the local position of a first mobile radio communication terminal device locally on the basis of the signal propagation time of the at least one radio signal from the second mobile radio communication terminal device to the first mobile communication terminal device.

Santhoff, for its part, is not "transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network," and "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal" either, and thus cannot make up for the deficiencies of Marinier with respect to claim 15.

In Santhoff, rather, the location of the first mobile wireless device may be estimated with a triangulation method using only the information obtained from the at least a portion of the responding other mobile wireless device. In particular, as described at paragraph [0050]:

If the querying wireless device (i.e., device A) is determined not to be in range of at least three towers in decision 506, then other wireless devices (e.g., other

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mobile wireless devices) proximate to the querying device may be queried per operation 510. In one embodiment of the present invention, the location of the first mobile wireless device may be estimated with a triangulation method using only the information obtained from the at least a portion of the responding other mobile wireless device if no positioning information is received by the first mobile wireless device from fixed position wireless devices with known geographic locations (i.e., zero (0) fixed position wireless devices).

Since, in Santhoff, the location of the first mobile wireless device may be estimated with a triangulation method using only the information obtained from the at least a portion of the responding other mobile wireless device, Santhoff is not "transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network," and "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal" either, and thus cannot make up for the deficiencies of Marinier with respect to claim 15.

A device in Santhoff, moreover, transmits a response to the device A if the device proximate to the requesting device (i.e., device A) receives the request transmitted by device A and has acquired information concerning its own geographic position/location, then such a device may transmit a response to the device A. In particular, as described at [0054]:

With reference to the YES path of decision 702, if a device proximate to the requesting device (i.e., device A) receives the request transmitted by device A and has acquired information concerning its own geographic position/location, then such a device may transmit a response to the device A (the responding mobile device will be referred to hereafter as device B).

Since a device in Santhoff transmits a response to the device A if the device proximate to the requesting device (i.e., device A) receives the request transmitted by device A and has acquired information concerning its own geographic position/location, then such a device may transmit a response to the device A, Santhoff is not "transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at

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least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network," and "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal" either, and thus cannot make up for the deficiencies of Marinier with respect to claim 15.

Santhoff, moreover, tests the information to determine if the delay taken by device B in responding to the request is above a predetermined threshold. In particular, as described at paragraph [0056]:

Next, in decision 714, the information decoded from the response may be tested to determine if the delay taken by device B in responding to the request is above a predetermined threshold (e.g., in a preferred embodiment, greater than 50 msec). For example, if device B took an inordinate amount of time to process the query (hereafter referred to as processing time), device B may be overloaded and prone to thread conflicts that will induce timing errors.

Since Santhoff tests the information to determine if the delay taken by device B in responding to the request is above a predetermined threshold, Santhoff is not "transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network," and "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal" either, and thus cannot make up for the deficiencies of Marinier with respect to claim 15.

Santhoff, finally, determines distance from three other devices if the replies of three or more devices have been received by device A. In particular, as described further at paragraph [0056]:

After performing the tests in decisions 712 and 714, a subsequent determination is made by device A as to whether the replies of three or more devices (i.e., three or more device B's) have been received by device A in decision 716. If three or more device B's have replied and at least three of the replies pass the tests set forth in decisions 712 and 714 (see the YES paths of decisions 712 and 714), then the dialog to determine device A's distance from three other devices may be

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executed per the YES path of decision 716 and operation 604.

Since Santhoff determines distance from three other devices if the replies of three or more devices have been received by device A, Santhoff is not "transmitting position information by at least one radio signal from at least one second mobile radio communication terminal device, the location of which is known either to the at least one second mobile radio communication terminal device or to the radio network, and which is either in the radio cell or in another radio cell, the at least one radio signal being transmitted to the first mobile radio communication terminal device via either a direct radio connection or an indirect radio connection via the radio network," and "inferring a distance between the first mobile radio communication terminal device and the at least one second mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal" either, and thus cannot make up for the deficiencies of Marinier with respect to claim 15.

Marinier, finally, teaches away from the claimed invention because Marinier describes a broadcast signal broadcast by the network, and a second mobile radio communication terminal responding directly to the network, and not to the first mobile radio communication terminal device. It would not make sense, technically, on the other hand, for Marinier to infer the local position of the first mobile radio communication terminal device on the basis of the signal propagation time of the at least one radio signal from the second mobile radio communication terminal device to the first mobile radio communication terminal device.

Claim 15 is submitted to be allowable. Withdrawal of the rejection of claim 15 is earnestly solicited.

Claims 20-26 depend from claim 15 and add additional distinguishing elements. Claims 20-26 are thus also submitted to be allowable. Withdrawal of the rejection of claims 20-26 is earnestly solicited.

Allowable Subject Matter:

The Applicants acknowledge with appreciation the allowance of claims 27 and 28.

Conclusion:

Accordingly, in view of the reasons given above, it is submitted that all of claims 15 and 20-28 are allowable over the cited references. Allowance of all claims 15 and 20-28 and of this entire application is therefore respectfully requested.

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If there are any formal matters remaining after this response, the Examiner is invited to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge them to our Deposit Account No. 19-3935.

Respectfully submitted,

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